PEOPLES GAS®
NATURAL GAS DELIVERY

DIMP SME Qualification Form

Name: William Houghton

Current Job Title: General Supervisor **Years in Current Job Title:** 23 years

Company and Location: System Integrity **Years at this Location:** 4 years.

Input years of work experience in each area and circle the company where that work experience was obtained:

Areas	*Years*	*Company*
O&M Field Operations	Years: 13	TEG / (PGL) / NSG / Other:
Construction Field Operations	Years: 3	TEG / (PGL) / NSG / Other:
Corrosion Control	Years:	TEG / PGL / NSG / Other:
System Integrity/Damage Prevention	Years: 4	TEG / (PGL) / NSG / Other:
Gas Operations (Regulators, Valves)	Years:	TEG / PGL / NSG / Other:
Field Service Planning	Years:	TEG / PGL / NSG / Other:
Gas Control	Years:	TEG / PGL / NSG / Other:
Dispatch	Years: 4	TEG / (PGL) / NSG / Other:
Engineering	Years:	TEG / PGL / NSG / Other:
Distribution Planning	Years:	TEG / PGL / NSG / Other:
Construction Planning	Years:	TEG / PGL / NSG / Other:
Business Support	Years:	TEG / PGL / NSG / Other:
Technical Training	Years:	TEG / PGL / NSG / Other:
Compliance	Years:	TEG / PGL / NSG / Other:
Standards	Years:	TEG / PGL / NSG / Other:
Materials	Years:	TEG / PGL / NSG / Other:
Customer Service	Years:	TEG / PGL / NSG / Other:
Billing/Customer Credit	Years:	TEG / PGL / NSG / Other:
Revenue Protection	Years:	TEG / PGL / NSG / Other:
Other:	Years:	TEG / PGL / NSG / Other:

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List any professional licenses/certifications obtained that are applicable to the natural gas industry:

License/Certificate	*Issued By:*	*Issue Date:*	*Expiration Date:*

List previous job titles applicable to the natural gas industry, years in job titles, and circle the companies:

Job Titles	*Years*	*Company*
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:

Total number of years working in the natural gas industry:

Circle proficiency level with the following software applications:

Software	*Proficiency*
ARM Suite (WAM)	None / Basic / Intermediate / Advanced / Expert
Asset Manager (FMDR)	None / Basic / Intermediate / Advanced / Expert
WMIS	None / Basic / Intermediate / Advanced / Expert
Cfirst	None / Basic / Intermediate / Advanced / Expert
MDSI Advantex	None / Basic / Intermediate / Advanced / Expert
NaviGate	None / Basic / Intermediate / Advanced / Expert
ArcGIS	None / Basic / Intermediate / Advanced / Expert
SynerGEE (Stoner)	None / Basic / Intermediate / Advanced / Expert
PeopleSoft	None / Basic / Intermediate / Advanced / Expert
Other:	None / Basic / Intermediate / Advanced / Expert
Other:	None / Basic / Intermediate / Advanced / Expert

PEOPLES GAS®
NATURAL GAS DELIVERY

DIMP SME Qualification Form

Name: James Pena

Current Job Title: Associate Engineer **Years in Current Job Title:** 1.5

Company and Location: Gas Operations **Years at this Location:** 1.5

Input years of work experience in each area and circle the company where that work experience was obtained:

Areas	*Years*	*Company*
O&M Field Operations	Years: 1	TEG / (PGL) / NSG / Other:
Construction Field Operations	Years: 0	TEG / (PGL) / NSG / Other:
Corrosion Control	Years: 0	TEG / (PGL) / NSG / Other:
System Integrity/Damage Prevention	Years: 0	TEG / (PGL) / NSG / Other:
Gas Operations (Regulators, Valves)	Years: 1.5	TEG / (PGL) / NSG / Other:
Field Service Planning	Years: 0	TEG / PGL / NSG / Other:
Gas Control	Years: 0	TEG / PGL / NSG / Other:
Dispatch	Years: 0	TEG / PGL / NSG / Other:
Engineering	Years: 0	TEG / PGL / NSG / Other:
Distribution Planning	Years: 0	TEG / PGL / NSG / Other:
Construction Planning	Years: 0	TEG / PGL / NSG / Other:
Business Support	Years: 0	TEG / PGL / NSG / Other:
Technical Training	Years: 0	TEG / PGL / NSG / Other:
Compliance	Years: 0	TEG / PGL / NSG / Other:
Standards	Years: 0	TEG / PGL / NSG / Other:
Materials	Years: 0	TEG / PGL / NSG / Other:
Customer Service	Years: 0	TEG / PGL / NSG / Other:
Billing/Customer Credit	Years: 0	TEG / PGL / NSG / Other:
Revenue Protection	Years: 0	TEG / PGL / NSG / Other:
Other:	Years: 0	TEG / PGL / NSG / Other:

Form Date: 8/14/15

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List any professional licenses/certifications obtained that are applicable to the natural gas industry:

License/Certificate	*Issued By:*	*Issue Date:*	*Expiration Date:*

List previous job titles applicable to the natural gas industry, years in job titles, and circle the companies:

Job Titles	*Years*	*Company*
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:
	Years:	TEG / PGL / NSG / Other:

Total number of years working in the natural gas industry:

Circle proficiency level with the following software applications:

Software	*Proficiency*
ARM Suite (WAM)	None / (Basic) / Intermediate / Advanced / Expert
Asset Manager (FMDR)	None / (Basic) / Intermediate / Advanced / Expert
WMIS	None / (Basic) / Intermediate / Advanced / Expert
Cfirst	None / (Basic) / Intermediate / Advanced / Expert
MDSI Advantex	None / (Basic) / Intermediate / Advanced / Expert
NaviGate	None / Basic / Intermediate / (Advanced) / Expert
ArcGIS	None / (Basic) / Intermediate / Advanced / Expert
SynerGEE (Stoner)	None / Basic / Intermediate / (Advanced) / Expert
PeopleSoft	None / (Basic) / Intermediate / Advanced / Expert
Other:	None / Basic / Intermediate / Advanced / Expert
Other:	None / Basic / Intermediate / Advanced / Expert

Appendix E

Risk Ranking with Scores and Factors

Risk Ranking With Scores and Factors								
DIMP Rank	**SHRIMP Rank**	**Threat Type**	**Threat Description**	**Relative Risk Score**	**Probability Score**	**Consequence Score**	**Leak Cause Factor**	**Incident Probability Factor**
1	1	Excavation Damage	Damages Caused by Chicago Water Department	22.52	9.42	1.5	1.275	1.25
2	2	Excavation Damage	Damages Caused by Benchmark Construction	16.51	9.42	1.1	1.275	1.25
3	2	Excavation Damage	Damages Caused by Joel Kennedy Construction	16.51	9.42	1.1	1.275	1.25
4	35	Other	Leaks at Bell and Mechanical Joints Due to Age of Fitting	16.15	10	1.1	1.468	1
5	4	Excavation Damage	Damages to PGL facilities by 2nd Parties (Peoples Gas Contractors)	15.09	9.47	1	1.275	1.25
6	6	Natural Forces	6" Diameter Cast Iron Mains	13.69	8.58	1.15	1.11	1.25
7	5	Natural Forces	Entire System Except 6" Diameter Cast Iron Mains	13.88	10	1	1.11	1.25
8	7	Corrosion - External	Cast, Ductile, Wrought Iron (larger than 8")	11.21	7	1.45	1.104	1
9	8	Other Outside Force Damage	Other Outside Force Damages on Service Pipes	10.14	10	1	1.014	1
10	9	Corrosion - External	Cast, Ductile, Wrought Iron (8" or smaller)	9.51	8.2	1.05	1.104	1
11	10	Equipment Malfunction	Medium Pressure to Low Pressure Vaults	9.44	7.75	1.2	1.015	1
12	11	Other Outside Force Damage	Other Outside Force Damages on Main Pipes	9.04	7.75	1.15	1.014	1
13	13	Excavation Damage	Damages to PGL facilities by PGL Crews	7.92	4.97	1	1.275	1.25
14	13	Material, Weld or Joint Failure	Clear Plastic	7.87	7.75	1	1.015	1
15	14	Equipment Malfunction	All Gate Stations	7.26	5.5	1.3	1.015	1
16	15	Corrosion - Atmospheric	Pipe in Bridges and Tunnels	7.13	4.38	1.475	1.104	1
17	16	Corrosion - External	Unprotected, Bare Steel	7.07	6.4	1	1.104	1
18	19	Equipment Malfunction	High Pressure to High Pressure Stations	7.54	5.5	1.35	1.015	1
19	35	Other	Paved Over Valves in Street, Debris in Valve Box	7.34	5	1	1.468	1
20	17	Corrosion - Atmospheric	Inside Service Pipe	6.9	6.25	1	1.104	1
21	17	Corrosion - Atmospheric	Outside Service Riser Pipe	6.9	6.25	1	1.104	1
22	20	Corrosion - External	Unprotected, Coated Steel	6.6	4.6	1.3	1.104	1
23	21	Equipment Malfunction	High Pressure to Medium Pressure Vaults	6.42	5.5	1.15	1.015	1
24	22	Material, Weld or Joint Failure	Mechanical Joints	6.14	5.5	1.1	1.015	1
25	23	Equipment Malfunction	Slam Shut Security Valves	5.86	5.5	1.05	1.015	1
26	24	Corrosion - External Corrosion	Other Metals (Copper)	5.74	5.2	1	1.104	1
27	25	Material, Weld or Joint Failure	Compression Couplings for PE Pipe	5.58	5.5	1	1.015	1
28	26	Equipment Malfunction	Remote Operated Valves	4.78	3.25	1.45	1.015	1
29	27	Corrosion - External	Cathodic Protected, Coated Steel	4.32	3.4	1.15	1.104	1
30	28	Equipment Malfunction	Network Valves	3.79	3.25	1.15	1.015	1
31	35	Other Outside Force Damage	Gas Pipes Bored Through Sewer Lateral	3.35	3	1.1	1.014	1
32	29	Equipment Malfunction	Distribution Valves Located Inside Valve Basins	3.3	3.25	1	1.015	1
33	29	Equipment Malfunction	Kerotest (Prior to Mid-1980's) Valves	3.3	3.25	1	1.015	1
34	35	Excavation Damage	Excavation Near HP Pipelines, >/= 16" MP Pipelines, Vaults, ROV's, Rectifiers	2.07	1	1.3	1.275	1.25
35	35	Incorrect Operations	Installation of Non-Approved Materials	1.64	1	1.05	1.25	1.25
36	35	Excavation Damage	Service Pipes Designated as Inactive	1.59	1	1	1.275	1.25
37	35	Other	No Access to Meter or Shutoff Valve	1.47	1	1	1.468	1
38	35	Other	Active Gas Supply to Vacant Property	1.47	1	1	1.468	1
39	35	Incorrect Operations	Too Little or Too Much Odorant in Gas	1.38	1	1.1	1.002	1.25
40	35	Corrosion - External	Cathodic Protected Steel Pipelines inside Metallic Casings	1.27	1	1.15	1.104	1
41	33	Equipment Malfunction	Distribution Valves Not Located in Basins	1.02	1	1	1.015	1
42	33	Equipment Malfunction	All Service Valves	1.02	1	1	1.015	1
43	35	Other Outside Force Damage	Unauthorized Turn-On by Customer	1.01	1	1	1.014	1
44	31	Corrosion - Internal	Entire System	3.63	2.86	1.15	1.104	1
45	32	Equipment Malfunction	Station Heaters	1.37	1	1.35	1.015	1

Appendix F

Manually Entered Threats

Manually Entered Threats

Threat	Description	Consequence Assessment			Risk Assessment				
		1. Are the pressures and/or diameter of this section greater than or about the same as the system as a whole?	2. Is this section predominantly located in business districts or outside business districts?	3. What would be the impact on the utility and its customers if this section were to fail?	Likelihood of Threat	Consequence Factor	Incident Probability Factor	Leak Cause Factor	Risk Score
Other - Bell and Mechanical Joints	Leaks at Bell and Mechanical Joints Due to Age of Fitting	Somewhat Greater Data Source: WAM R43 Facility Report	Outside Business Districts Data Source: WAM R43 Facility Report	Low Data Source: WAM 104/109 Leak Report	Very Frequently Data Source: WAM 104/109 Leak Report	1.1	1.00	1.468	**16.15**
Other - Inaccessible Valves	Paved Over Valves in Street, Debris in Valve Box	About the Same Data Source: WAM R43 Facility Report	Outside Business Districts Data Source: WAM R43 Facility Report	Low Data Source: WAM 108A Completed Valve Inspection List	Somewhat Frequently Data Source: WAM 108A Completed Valve Inspection List	1	1.00	1.468	**7.34**
Other Outside Force Damage - Crossbores	Gas Pipes Bored Through Sewer Lateral	Somewhat Greater Data Source: WAM R43 Facility Report	Outside Business Districts Data Source: WAM R43 Facility Report	Low Data Source: WAM R43 Facility Report	Seldomly Data Source: Crossbore Inspection Sheet	1.1	1.00	1.014	**3.35**
Excavation Damage - Critical Facilities	Excavation Near HP Pipelines, >/= 16" MP Pipelines, Vaults, ROV's, Rectifiers	Substantially Greater Data Source: Threat relates specifically to larger diameter mains/services	Outside Business Districts Data Source: WAM R43 Facility Report	High Data Source: Threat relates specifically to larger diameter mains/services	Rarely Data Source: PGL Hit Database	1.3	1.25	1.273	**2.07**
Incorrect Operations - Non Approved Material	Installation of Non-Approved Materials	About the Same Data Source: Material Failure Database	Outside Business Districts Data Source: WAM R43 Facility Report	Moderate Data Source: Replacement of fittings requires shut down	Rarely Data Source: Material Failure Database	1.05	1.25	1.002	**1.64**
Excavation Damage - Inactive Services	Service Pipes Designated as Inactive	About the Same Data Source: PGL Hit Database	Outside Business Districts Data Source: WAM R43 Facility Report	Low Data Source: Threat relates specifically to service pipes	Rarely Data Source: PGL Hit Database	1	1.25	1.273	**1.59**
Other - Soft Closed Accounts	Active Gas Supply to Vacant Property	About the Same Data Source: Threat deals specifically with service pipes	Outside Business Districts Data Source: WAM R43 Facility Report	Low Data Source: Threat relates specifically to service pipes	Rarely Data Source: WAM 104/109 Leak Report	1	1.00	1.468	**1.47**
Other - Inaccessible Meters and Shutoffs	No Access to Meter or Shutoff Valve	About the Same Data Source: Threat deals specifically with service pipes	Outside Business Districts Data Source: WAM R43 Facility Report	Low Data Source: Threat relates specifically to service pipes	Rarely Data Source: WAM 104/109 Leak Report	1	1.00	1.468	**1.47**
Incorrect Operations - Improper Odorization	Too Little or Too Much Odorant in Gas	About the Same Data Source: Improper Odorization affects all aspects of system	Outside Business Districts Data Source: WAM R43 Facility Report	High Data Source: Improper Odorization affects all aspects of system	Rarely Data Source: Odorization Report	1.1	1.25	1.002	**1.38**
Corrosion - Cased Pipelines	Cathodic Protected Steel Pipelines inside Metallic Casings	Somewhat Greater Data Source: Casing Inspection Sheets	Outside Business Districts Data Source: WAM R43 Facility Report	Moderate Data Source: WAM R43 Facility Report	Rarely Data Source: WAM 104/109 Leak Report	1.15	1.00	1.103	**1.27**
Other Outside Force Damage - Occupant Use	Unauthorized Turn-On by Customer	About the Same Data Source: Threat deals specifically with service pipes	Outside Business Districts Data Source: Threat deals specifically with service pipes	Low Data Source: Threat deals specifically with service pipes	Rarely Data Source: WAM 104/109 Leak Report	1	1.00	1.014	**1.01**

Risk Calculation for Manually Entered Threats

Risk = Likelihood Factor * Consequence Factor * Incident Probability Factor * Leak Cause Factor

Likelihood Factor

Likelihood	Likelihood Factor
Very Frequently (>50 per year)	10
Frequently (26-50 per year)	7
Somewhat Frequently (6-25 per year)	5
Seldomly (1-5 per year)	3
Rarely (<1 per year)	1

Consequence Factor

Consequence Factor = 1 + Q1 Score + Q2 Score + Q3 Score

	Relative Pressure/Diameter	Score
Consequence Q1	Substantially Greater	0.2
	Somewhat Greater	0.1
	About the Same	0
	Business/Residential	Score
Consequence Q2	Within Business Districts	0.15
	Outside Business Districts	0
	Impact	Score
Consequence Q3	High	0.1
	Moderate	0.05
	Low	0

Incident Probability Factor

Cause	Incident Probability Factor
Corrosion	1
Natural Forces	1
Excavation Damage	1.25
Other Outside Force Damage	1
Material or Welds	1
Equipment	1
Incorrect Operations	1.25
Other	1

Leak Cause Factor

Leak Cause Factor = 1 + Number of Leaks By Cause/Total Leaks

Cause	Number of Leaks by Cause	Total Leaks (2005-2014)	Leak Cause Factor
Corrosion	2,599	25,131	1.103
Natural Forces	2,748		1.109
Excavation Damage	6,857		1.273
Other Outside Force Damage	358		1.014
Material or Welds	365		1.015
Equipment	382		1.015
Incorrect Operations	58		1.002
Other	11,764		1.468

Data Source: LKMS/WAM Leak Reports, WAM 108 Valve Inspection List, PGL Hit Database	**Data Source: Appendix K - PGL SHRIMP Written DIM Plan YE 2014, Section 11.3.2: Relative Risk Model**	**Data Source: Appendix K - PGL SHRIMP Written DIM Plan YE 2014, Section 11.3.2: Relative Risk Model**	**Data Source: Appendix K - PGL SHRIMP Written DIM Plan YE 2014, Section 11.3.2: Relative Risk Model. Leak Numbers from LKMS and WAM R104/109 Leak Reports**

Appendix G

List of Additional Actions and Performance Measures

List of Additional Actions and Performance Metrics

Threat		Additional Actions	Performance Metric
Primary	Subcategory		
CORROSION	Corrosion - Atmospheric - Inside Service Pipes	• Inside Safety Inspections - performed every three years not to exceed 51 months. • Accelerated Main Replacement Program to limit inside company owned piping. All inside meters to be moved outside when service is renewed. Any meters left inside require manager authorization.	Number of Inside Safety Inspections in which pipe condition was noted as poor due to corrosion
	Corrosion - Atmospheric - Outside Service Pipe Risers	• Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per 1000 services
	Corrosion - Atmospheric - Bridge and Tunnels	None: Visual and Leak Survey Inspections of the pipe and all supporting structures are completed quarterly, with a more comprehensive inspection completed every 3 years. Any required work is immediately brought to the attention of district management.	None at this time
	Corrosion External - Unprotected Bare Steel	• Accelerated Main Replacement Program to renew Bare Steel services with modern materials (CP steel/HDPE PLastic) • Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per mile main/1000 services
	Corrosion - External - Unprotected Coated Steel	• Accelerated Main Replacement Program to renew non CP Steel services with modern materials (CP steel/HDPE PLastic) • Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per mile main/1000 services
	Corrosion - External - Cathodic Protected Coated Steel	• For insulated corrosion protected services, remediation threshold has been increased from -.85V to -.95V. • Perform any required remediation on CP steel facilities within 12 months, instead of the 15 mandated by regulation. • Monitor Rectifier Status, Voltage, and Current Outputs every eight days, instead of two months as required by regulations.	Leaks per mile main/1000 services
	Corrosion - External - Cast and Ductile Iron (larger than 8")	• Accelerated Main Replacement Program to replace all Cast/Ductile Iron with modern materials. (HDPE Plastic and CP Steel) • Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per mile main/1000 services
	Corrosion - External - Cast and Ductile Iron (8" and Less)	• Accelerated Main Replacement Program to replace all Cast/Ductile Iron with modern materials. (HDPE Plastic and CP Steel) • Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per mile main/1000 services
	Corrosion - External - Other Metals (Copper)	• Accelerated Main Replacement Program to renew Copper services with modern materials (CP steel/HDPE PLastic)	Leaks per 1000 services
	Corrosion - External - Cathodic Protected Steel Pipelines inside Metallic Casings	• Annual casing inspections • Casings requiring remediation are reviewed with Engineering on a bi-monthly basis	Annual inspections on each casing and carrier
	Corrosion - Internal	None: Relative risk is very low. All gas entering Distribution System is of Transmision Quality and non-corrosive per SME Panel	None at this time

Threat		Additional Actions	Performance Metric
Primary	**Subcategory**		
NATURAL FORCES	Natural Forces - 6" Daimeter Cast Iron Main	• Accelerated Main Replacement Program to replace all Cast/Ductile Iron with modern materials. (HDPE Plastic and CP Steel) • Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per mile main and/or per service
	Natural Forces - Remainder of System	• Accelerated Main Replacement Program to replace all Cast/Ductile Iron with modern materials. (HDPE Plastic and CP Steel) • Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Leaks per mile main/1000 services
EXCAVATION DAMAGE	Excavation Damage - Third Party Damages - Chicago Water Department	• Conduct enhanced awareness education programs following the guidelines of the Supplemental Frequency and Activity in API RP 1162 Public Awareness Programs for Pipeline Operators incorporated by reference in 49 CFR Part 192. • Improve accuracy of line marking. • Inspect for facility support/protection. • Monitor backfill operation. • Monitor/audit excavation activity. • Provide additional excavation damage prevention training. • Recruit support of public safety officials. • Discuss and request regulatory intervention from the appropriate agency to address specific violations by a third party (e.g., excavators, property owners, other facility operators) of state damage prevention laws.	Number of hits to gas facilities per 1000 tickets
	Excavation Damage - Third Party Damages - Benchmark Construction		
	Excavation Damage - Third Party Damages - Joel Kennedy Construction		
	Excavation Damage - Second Party Damages - PGL Contractors	• Conduct additional leak surveys. • Conduct enhanced awareness education programs following the guidelines of the Supplemental Frequency and Activity in API RP 1162 Public Awareness Programs for Pipeline Operators incorporated by reference in 49 CFR Part 192. • Expand equipment testing, calibration, upgrade. • Improve accuracy of line marking. • Inspect for facility support/protection. • Monitor backfill operation. • Monitor/audit excavation activity. • Recruit support of public safety officials. • Re-evaluate contractor.	Number of hits to gas facilities per 1000 tickets
	Excavation Damage - First Party Damages - PGL Crews	• Expand equipment testing, calibration, upgrade. • Improve accuracy of line marking. • Inspect for facility support/protection. monitor backfill operation. monitor/audit excavation activity. provide additional excavation damage prevention training. review map availability.	Number of hits to gas facilities per 1000 tickets
	Excavation Damage - Critical Facilities	• On-site monitoring by company personnel, from initial excavation through final backfill. • Daily email by System Integrity detailing each critical excavation site, including the location, excavator, Dig #, Type of Work, and Facility Type and Size. • Shut Down and Contingency Plans are developed for each proposed critical excavation in the event the facility is damaged. • All boring near critical facilities is monitored.	Number of hits to gas facilities per 1000 tickets
	Excavation Damage - Inactive Services	• Perform accelerated physical disconnects and retirements on services that have been inactive for more than 3 years	Number of inactive services that are cut off from their supply of gas

Threat		Additional Actions	Performance Metric
Primary	Subcategory		
OTHER OUTSIDE FORCE DAMAGE	Other Outside Force Damage - Services	• Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Track frequency of these failures
	Other Outside Force Damage - Mains	• Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually.	Track frequency of these failures
	Other Outside Force Damage - Crossbores	• Monitor or Trend these Failures. • Pre and Post camera work for main installations using any trenchless technologies. Daylighting all crossings. Public outreach program to notify plumbers and homeowners of danger of rodding clogged sewers.	Track the number of Crossbore Inspections completed and Crossbores found per year.
	Other Outside Force Damage - Occupant Use	• Any accounts that are currently inactive but showing usage are immediately ordered an additional disconnect request. If the meter is outside, or if there no active accounts at the premise, the disconnect order is completed within 5 days. Otherwise, the order is completed within 30 days, and all affected customers are notified of the pending disconnect. Consecutive Occupant Use Disconnect orders for the same address are issued a Distribution Cut-off (a physical disconnection from gas service.)	Track frequency of these failures
EQUIPMENT MALFUNCTION	Equipment Malfunction - Gate Stations	• Perform inspections and maintenance on an accelerated frequency of Monthly on this portion of the distribution system • Repair problem equipment and/or change settings	Track frequency of these failures
	Equipment Malfunction - High Pressure to High Pressure Stations	• Perform inspections and maintenance on an accelerated frequency of Monthly on this portion of the distribution system • Repair problem equipment and/or change settings	Track frequency of these failures
	Equipment Malfunction - Station Heaters	• The relative risk posed by this threat on this section of PEOPLES GAS are adequately addressed by current inspection and maintenance. No additional actions are required. The following explanation was provided: Relative risk for this threat is very low.	None at this time
	Equipment Malfunction - Medium Pressure Vaults	• Perform inspections and maintenance on an accelerated frequency of Monthly on this portion of the distribution system • Repair or replace problem materials	Track frequency of these failures
	Equipment Malfunction - Low Pressure Vaults	• Perform inspections and maintenance on an accelerated frequency of Monthly on this portion of the distribution system • Repair or replace problem materials • Accelerated Main Replacement Program to eliminate the Low Pressure side of the distribution system, and in turn, all LP vaults	Track frequency of these failures
	Equipment Malfunction - Slam Shut Security Valves	• Repair problem equipment and/or change settings • Repair or replace problem materials	Track frequency of these failures
	Equipment Malfunction - Remote Operated Valves	• Repair problem equipment and/or change settings • Repair or replace problem materials	Track frequency of these failures
	Equipment Malfunction - Network Valves	• Repair problem equipment and/or change settings • Repair or replace problem materials	Track frequency of these failures
	Equipment Malfunction - Distribution Valves in Valve Basins	• Repair or replace problem materials	Track frequency of these failures
	Equipment Malfunction - Distribution Valves not Located in Valve Basins	• Repair or replace problem materials	Track frequency of these failures
	Equipment Malfunction - Kerotest Valves (prior to Mid-1980's)	• Repair problem equipment and/or change settings	Track frequency of these failures
	Equipment Malfunction - Service Valves	• Repair or replace problem materials • Accelerated Main Replacement Program - All new service line installations require an excess flow valve, and in almost all instances, the meter and shutoff is installed on the outside of the building, thereby eliminating the need for a buried valve	Track frequency of these failures

Threat		Additional Actions	Performance Metric
Primary	**Subcategory**		
MATERIAL, JOINT OR WELD	Material, Joint, or Weld Failure - Clear Plastic	• Accelerated Main Replacement Program to renew clear plastic services with modern materials (CP Steel/HDPE Plastic)	Track frequency of these failures
	Material, Joint, or Weld Failure - Mechanical Fittings	• Replace or repair	Track frequency of these failures
	Material, Joint, or Weld Failure - Compression Couplings for PE Pipe	• Revise construction procedures • Revise materials specifications	Track frequency of these failures
INCORRECT OPERATION	Incorrect Operations - Improper Odorization	• Monitor or Trend these Failures.	Track the frequency of these failures
	Incorrect Operations - Installation of Non-Approved Materials	• Monitor or Trend these Failures.	Track the frequency of these failures
OTHER	Other - Leaks at Bell and Mechanical Joints Due to Age of Fitting	• Additional Leak Surveys: Business Districts - annually, not to exceed 15 months. Loop - 3 times annually. MP Residential DI/CI mains - annually. MP LP Residential - every 5 years not to exceed 63 months. Non CP Steel - every 3 years not to exceed 39 months. High Pressure - 4 times annually. • Accelerated Main Replacement Project to eliminate Cast and Ductile Iron Mains.	Track the frequency of these failures
	Other - Paved Over Valves in Street and Debris in Valve Box	• Monitor or Trend these Failures	Track the frequency of these failures
	Other - No Access to Meter and/or Shutoff Valve	• Accelerated Main Replacement Program to address inside meters. All inside meters to be moved outside when service is renewed. Any meters left inside require manager authorization.	Record the number of inside and outside meters
	Other - Active Gas Supply to Vacant Property	• Develop procedure/directive to address soft closed accounts. Disconnect any soft closed account that has a pending ISI.	Track the frequency of these failures

Appendix H

Mandatory Metrics and Performance Measures